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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,489	RAGHAV ET AL.	
	Examiner	Art Unit	
	ANDREW LAI	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 June 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 20-39 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 20-39 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 6/17/2009 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 26 – 32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 26 recites “a computer readable medium containing instructions ...” (emphasis added), taken as just one form of the “computer readable media” disclosed in the Specification page 11 first paragraph, which paragraph however described a non-statutory form of “signal such as carrier wave”. The paragraph first states (lines 4-5) “computer readable media may comprise computer storage media and communication media” (emphasis added) and then goes on by stating (lines 13-16) “communication media typically embodies computer-readable instructions, data, data structures, program modules, ... in a modulated data signal such as a

carrier wave or other transport mechanism and includes any information delivery media." (emphasis added). Claims 27-32 depend from Claim 26.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 recites the limitation "*the first telephony device*" on lines 11-12. There is insufficient antecedent basis for this limitation in the claim. It should be amended to read "*a telephony device*".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20-22, 26-28 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcock et al (US 2002/0,073,208, "Wilcock") in view of Kadakia et al (US 2005/0113108, "Kadakia").

Wilcock discloses an invention wherein "A contact center uses a service system to establish communication over a data network ...- between customer

endpoint systems [“CUS_ESs” hereinafter - Examiner notes] and the endpoint systems of customer service representatives, CSRs [or “CSR_ESs” hereinafter – Examiner notes]” (Abstract lines 1-5) using a layered model (see Fig. 3) wherein a “session transport manager 19” (“STM” hereinafter) is placed at “transport layer” and a “communication session manager 14” (“CSM” hereinafter) at higher layers comprising a “connection layer”, said “STM/CSM” “can be a third party system accessed by users, including contact center CSRs, over the internet” ([0377] lines 1-3); and further “communication session abstraction 11 is modeled in the web interaction system by appropriate data structures and method (for example, implemented as instances of a communication session)” ([0042] lines 8-11). Wilcock’s invention comprises the following features:

- **Independent claims 20 and its dependent claims 21 and 22**

Regarding claim 20, a method (“operating method”, [0006] line 2) for controlling and monitoring via client systems (“CSR_ESs” cited above, e.g. Fig. 3 “endpoint system 2” having accessed said “STM/CSM”, which is further shown as a “CSR desktop 80”, [0187] line 1, in Fig. 9. Note that from this point on “endpoint system 2” refers to both itself and “CSR desktop 80”) calls placed through telephony devices (“CUS_ESs” cited above, e.g. Fig. 3 “endpoint system 1”, which is further shown in Fig. 9 as a device with “Call ID 45” and “Customer Name Fred Bloggs” in a “Status” of “answered”, “Fred’s device” hereinafter. Note that from this point on “endpoint system 1” refers to both itself and “Fred’s device”. Note further “the CSR Desktop 80 is the CSR’s sole point of interaction with web channel calls but may be used in conjunction with other channels, e.g.,

telephony”, [0187] lines 1-3, and see Fig. 9 showing which CSR “GUI” in general “can be used by the CSR to receive incoming calls and manage calls that they are already dealing with”, [0188] lines 14-15), *the telephony devices (“endpoint system 1”/“Fred’s device” cited above) including a Session Initiation Protocol-enabled device* (“Internet protocol (IP) socket and Session Initiation Protocol (SIP) transports are other possible alternative implementation choices”, [0088] lines 9-11, which requires a SIP device) *and a PSTN telephone* (above said “other channels, e.g. telephony” in view of “the communication option required (such as ... PSTN telephone call)”, [0135] lines 6-8), *each telephony device having a unique identifier* (“the connection endpoint provides a unique address for the endpoint system [if a SIP device – Examiner notes, well known in the art] and is used in a similar way as a telephone number [if a PSTN telephone – Examiner notes, also well known in the art] in the PSTN”, [0074] lines 4-7), *comprising:*

providing a plurality of client systems (e.g. “endpoint system 2”/“CSR desktop 80”) *and telephony devices* (e.g., “endpoint system 1”/“Fred’s device”) *within a communication network* (Fig. 3), *each client system having a unique identifier* (again “the connection endpoint provides a unique address for the endpoint system”) *and hardware* (“CSR desktop 80“ shown as an “agent desktop 74” computer terminal illustrated in Fig. 8 for a “CSR_ES”) *and software components* (“CSR desktop GUI 80” of Fig. 9, [0188] lines 12-13, noting that a “GUI” is a well known *software component* in the art) *that provide a user interface (“GUI 80”) for controlling a telephony device* (“endpoint system 1”/“Fred’s device”

as of the “manage[d] calls that they [CSRs] are already dealing with” cited above), *the client systems being communicatively connected in a group* (Fig. 7 showing “CSR Pool 73” with multiple “CSR 74” computer terminals *communicatively connected in a group* because a “CSR” dealing with a “call” is capable of “transferring the call to another CSR and conferencing in another CSR”, [0189] last two lines);

for each of the telephony devices (“endpoint system 1”/“Fred’s device”), *providing a logical representation* (in view of above cited “abstraction 11” and see further “the connection-state abstractions exchanged by the leg controllers represent high-level, logical participation in the session transport”, [0074] lines 14-18) *and a physical representation* (see in general “connection details include the address and type of the session transport”, [0070] lines 4-5, and see in particular “To interface with a particular call, the CSR selects the row containing the call details (and possibly is also required to press an appropriate button”, [0188] last three lines) *for the telephony device* (“endpoint system 1”), *the logic representation for a telephony device representing a communication link of the telephony device* (“high level logical participation” cited above for “connection layer” in fig. 3), *the physical representation* (“connection/call details” cited above) *of a telephony device representing physical attributes of the telephony device* (e.g. “type of the session transport” as well as “appropriate button” of “endpoint system” cited above);

determining relationships between client systems and telephony devices (above cited “the connection-state abstractions exchanged by the leg

controllers", e.g. fig. 3 respective "leg controllers 20" pair in "communication session manager 14" and "endpoint system 1") *based on their unique identifiers* (Fig. 9/3 showing "CSR desktop 80"/"endpoint system 2" handing "Fred's device"/"endpoint system 1" making "Call ID 45", meaning a session is established *based on the unique identifiers* of the two), *a relationship indicating that a client system is to control a telephony device* ("endpoint system 1"/"Fred's device" under the *control* of "CSM 14" via "leg controllers 20" as well as "STM 19" established by "CSR desktop 80"/"endpoint system 2") *via the logical representation* (fig. 3 "leg messages" at "connection layer" between the "leg controllers 20" and through above cited "connection-state abstractions exchanged by the leg controllers" which "represent high-level, logical participation in the session transport") *and the physical representation* (fig. 3, note the "type of transport" of "endpoint system 1"/"Fred's device" controlled at "transport layer" by "STM 19" via "connection details include the address and type of the session transport" cited above) *of the telephony device* ("endpoint system 1"/"Fred's device");

for each relationship between a client system and a telephony device (again see fig. 3 for the coupling *relationship between the two "endpoint systems"*),

establishing a device control channel (Fig. 3 e.g. "channel a" of "session transport 15" in "STM 19") *between the physical representation of the telephony device* ("type of transport" of "endpoint system 1"/"Fred's device") *and the client system* (fig. 3 "endpoint system 2"/"CSR desktop 80" using "STM 19" and see

"Associate with each communication session is a session transport 15 (fig. 2) which is an abstraction of functionality for actually effecting data communication between endpoint systems", [0043] lines 1-4); and

establishing a call control channel (fig. 3 see the channel carrying "leg message") *between the logical representation of the telephony device and the client system* (again refer to fig. 3 depicting, at "connection layer", "CSM 14" having "leg controller 20" paired up with "leg controller 20" of "endpoint system 1" for passing above cited "leg messages") *the call control channel* (again, fig. 3 the channel carrying "leg messages" at the "connection layer") *being different from the device control channel* (again, fig. 3 e.g. "channel a" at the "transport layer", which is shown to be *different from the channel* carrying the "leg messages"); and

under control of the user interface ("GUI 80" of Fig. 9) of each client system that has a relationship with a telephony device ("endpoint system 1"/"Fred's device" being under control of client system of "endpoint system 2"/"CSR desktop 80"),

controlling the telephony device via the logical representation using the call control channel (see discussion above regarding "CSM 14" controlling "endpoint system 1"/"Fred's device" via the logical representation comprising using the call control channel carrying "leg messages") and via the physical representation using the device control channel (see discussion above regarding "STM 19" controlling "endpoint system 1"/"Fred's device" via the physical representation comprising using the physical control channel, e.g., "channel a")

to place calls via telephony device (see fig. 3, the “service layer”, and note, as a result of above discussed controlling, the “Call ID 45” *call via telephony device* being *placed* from “endpoint system 1”/“Fred’s device” to “endpoint system 2”/“CSR desktop 80” therein, see Fig. 9 also, which can be further *placed* by “transferring the call to another CSR”, [0189] line 4); *and*

monitoring the telephony device via the logical representation using the call control channel and via the physical representation using the device control channel (see discussion above again regarding controlling provided by “SCM 14/STM 19”, and further see “The session manager 14 and the session-transport functionality are kept in step through ‘leg controllers’ 20 (shown in fig. 3)” recited [0045] lines 8-10, and “The leg controller 20 … monitor the connection state of the entity” recited [0073] lines 8-12) *to receive calls via the telephony device* (Fig. 9 showing “Call ID 45” from “endpoint system 1”/“Fred’s device” being “Answered”).

It is noted herein that, while disclosing SIP device and PSTN telephone, Wilcock does not expressly disclose a SIP telephone and a *time division multiplexing* telephone. However, using explicitly *SIP telephone and/or TDM telephone* for data and/or voice communications has been a known technique in the art at the time of the instant invention, as can be seen in Kadakia.

Kadakia discloses “apparatus, and an associated method, by which to facilitate routing of a telephone call originated at an originating station to a designated telephonic station” (Abstract lines 1-3) comprising using *SIP telephone and/or TDM telephone* (refer to Fig. 1 and see firstly “SIP phone” being

illustrated communication to other device via “TDM/IP network 12”, and also note “telephone 14” and see “the telephonic station 14 is representative of any of various types of telephonic stations capable of originating a telephonic call. That is to say, the telephonic station is representative of a POTS (plain old telephone system) phone, a TDM (time division multiplexed) phone, SIP (session interface protocol) session phone, or a wireless mobile station, as well as other telephonic communication stations”, [0028] lines 9-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Wilcock by adding Kadakia's SIP/TDM telephones thereto in order to provide a more robust and easy-to-use system in which “the routing is performed automatically, wholly without intervention by the user to identify the user's location” ([0045] lines 3-5).

Examiner's note: for the discussions below for all claims, the notation used above for claim 26 apply, particularly “endpoint system 2”/“CSR desktop 80” as one example of “CSR_ESs” or *plurality of client systems* and “endpoint system 1”/“Fred's device” as one example of “CUS_ESs” or *plurality of telephony devices*. When said notations are referenced below, no further articulation will be given since they have been fully explained above for claim 20.

Regarding claim 21, the method of claim 20 including for each telephony device (Wilcock: “endpoint system 1”/“Fred's device”),

when the telephony device is a time division multiplexing (TDM) device
(Kadakia: “TDM (time division multiplexed) phone”),

associating the logical representation and the physical representation
(Wilcock: see discussion above for claim 20 regarding *logical/physical representation*) *with a phone number of the telephony device* (Wilcock: “The information contained in the initiation context will to some extent be service

specific but will generally involve information grouped in the following data sets:" ,

[0126] and further, "This data set is used to describe the characteristics of the requesting party. Examples are ... telephone number", [0127] lines 1-4),

when the telephony device is a SIP device (Kadakia: "SIP (session interface protocol) session phone"),

associating the logical representation of the telephony device with an electronic mail address (Wilcock: "The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets.", [0126] and further, "This data set is used to describe the characteristics of the requesting party. Examples are ... e-mail address", [0127] lines 1-4, emphasis added); and

associating the physical representation of the telephony device with a fully qualified domain name (Wilcock: "where a page-push channel is provided, the content filters applied to that channel will generally take the form of URLs or domain names", [0362] lines 1-3).

Regarding claim 22, the method of claim 20 wherein the determining of relationships between telephony devices (Wilcock: see discussion above for claim 20 regarding *determining relationship* between "endpoint system 1"/"Fred's device" and "endpoint system 2"/"CSR desktop 80") *includes searching a network directory for a listing of telephony devices within the communication network* (Kilcock: refer to fig. 6 and see "a session initiation instance associated with the page and customer then accesses customer profile database 39 to extract customer data" recited [0316] lines 1-3).

- **Independent claims 26 and its dependent claims 27 and 28**

Wilcock discloses the following features:

Regarding claim 26, a computer-readable medium containing instructions
("using standard techniques such as object-oriented programming (e.g. Java Beans), it is possible for a software automation to interact with a session (and its associated service instance and session transport", [0333] lines 13-17) *for each of a plurality of client systems* ("CSR_ESs" cited above, e.g., "endpoint system 2"/"CSR desktop 80" accessing/using, see Fig. 3, "STM 19"/"CSM 14"), a *client system* ("endpoint system 2"/"CSR desktop 80" accessing/using "STM/CSM") *for controlling and monitoring calls* (Fig. 9 "Call ID 45") *placed through a first telephony device* ("endpoint system 1"/"Fred's device" through which "Call ID 45" call placed) *of a communication network* (Fig. 3), *the client system having hardware* ("CSR desktop 80" shown as an "agent desktop 74" computer terminal illustrated in Fig. 8 for a "CSR_ES") *and software components* ("CSR desktop GUI 80" of Fig. 9, [0188] lines 12-13, noting that a "GUI" is a well known *software component in the art*) *that provide a user interface* ("GUI 80") *for controlling the first telephony device* ("endpoint system 1"/"Fred's device" as making one of the "manage[d] calls that they [CSRs] are already dealing with" cited above), *the first telephony device* ("endpoint system 1"/"Fred's device") *being selected from the group consisting of a Session Initiation Protocol-enabled device* ("Internet protocol (IP) socket and Session Initiation Protocol (SIP) transports are other possible alternative implementation choices", [0088] lines 9-11, which requires a *SIP device*) *and a PSTN telephone* (above said "other channels, e.g. telephony")

in view of “the communication option required (such as ... PSTN telephone call)”, [0135] lines 6-8), *the first telephony device having a logical representation* (in view of above cited “abstraction 11” and see further “the connection-state abstractions exchanged by the leg controllers represent high-level, logical participation in the session transport”, [0074] lines 14-18) *and a physical representation* (see in general “connection details include the address and type of the session transport”, [0070] lines 4-5, and see in particular “To interface with a particular call, the CSR selects the row containing the call details (and possibly is also required to press an appropriate button”, [0188] last three lines) *for the first telephony device, the logic representation for the first telephony device representing a communication link of the first telephony device* (“high level logical participation” cited above for “connection layer” in fig. 3), *the physical representation* (“connection/call details” cited above) *of the first telephony device representing physical attributes of the first telephony device* (e.g. “type of the session transport” as well as “appropriate button” of “endpoint system” cited above), *by a method comprising:*

determining a relationship between the client system (again “endpoint system 2”/“CSR desktop 80”) *and the first telephony devices* (again “endpoint system 1”/“Fred’s device”, and see above cited “the connection-state abstractions exchanged by the leg controllers”, e.g. fig. 3 respective “leg controllers 20” pair in “communication session manager 14” and “endpoint system 1”);

establishing a device control channel (Fig. 3 e.g. “channel a” of “session transport 15” in “STM 19”) between the physical representation of the first telephony device (“type of transport” of “endpoint system 1”/“Fred’s device”) and the client system (fig. 3 “endpoint system 2”/“CSR desktop 80” using “STM 19” and see “Associate with each communication session is a session transport 15 (fig. 2) which is an abstraction of functionality for actually effecting data communication between endpoint systems”, [0043] lines 1-4);

establishing a call control channel (fig. 3 see the channel carrying “leg message”) between the logical representation of the first telephony device and the client system (again refer to fig. 3 depicting, at “connection layer”, “CSM 14” having “leg controller 20” paired up with “leg controller 20” of “endpoint system 1” for passing above cited “leg messages”);

under control of the user interface (“GUI 80” of Fig. 9) of the client system (“endpoint system 2”/“CSR desktop 80”), controlling the telephony device via the logical representation using the call control channel (see discussion above regarding “CSM 14” controlling “endpoint system 1”/“Fred’s device” via the logical representation comprising using the call control channel carrying “leg messages”) and via the physical representation using the device control channel (see discussion above regarding “STM 19” controlling “endpoint system 1”/“Fred’s device” via the physical representation comprising using the physical control channel, e.g., “channel a”) to place a call (see fig. 3, the “service layer”, and note, as a result of above discussed controlling, the “Call ID 45” call placed between “endpoint system 1”/“Fred’s device” and “endpoint system 2”/“CSR

desktop 80" therein, see Fig. 9 also, which can be further placed by "transferring the call to another CSR", [0189] line 4); and

monitoring the first telephony device via the logical representation using the call control channel and via the physical representation using the device control channel (see discussion above again regarding controlling provided by "SCM 14/STM 19", and further see "The session manager 14 and the session-transport functionality are kept in step through 'leg controllers' 20 (shown in fig. 3)" recited [0045] lines 8-10, and "The leg controller 20 ... monitor the connection state of the entity" recited [0073] lines 8-12).

It is noted herein that, while disclosing SIP device and PSTN telephone, Wilcock does not expressly disclose a SIP *telephone* and a *time division multiplexing* telephone. However, using explicitly *SIP telephone* and/or *TDM telephone* for data and/or voice communications has been a known technique in the art at the time of the instant invention, as can be seen in Kadakia.

Kadakia discloses "apparatus, and an associated method, by which to facilitate routing of a telephone call originated at an originating station to a designated telephonic station" (Abstract lines 1-3) comprising using *SIP telephone* and/or *TDM telephone* (refer to Fig. 1 and see firstly "SIP phone" being illustrated communication to other device via "TDM/IP network 12", and also note "telephone 14" and see "the telephonic station 14 is representative of any of various types of telephonic stations capable of originating a telephonic call. That is to say, the telephonic station is representative of a POTS (plain old telephone system) phone, a TDM (time division multiplexed) phone, SIP (session interface

protocol) session phone, or a wireless mobile station, as well as other telephonic communication stations”, [0028] lines 9-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the computer-readable medium containing instructions of Wilcock by adding Kadakia's SIP/TDM telephones thereto in order to provide a more robust and easy-to-use system in which “the routing is performed automatically, wholly without intervention by the user to identify the user's location” ([0045] lines 3-5).

Regarding claim 27, the computer-readable medium of claim 26 including when the first telephony device (Wilcock: “endpoint system 1”/“Fred's device”) is a time division multiplexing (TDM) device (Kadakia: “TDM (time division multiplexed) phone”),

associating the logical representation and the physical representation of the first telephony device (Wilcock: see discussion above for claim 20 regarding logical/physical representation) with a phone number of the first telephony device (Wilcock: “The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets:”, [0126] and further, “This data set is used to describe the characteristics of the requesting party. Examples are ... telephone number”, [0127] lines 1-4),

when the first telephony device is a SIP device (Kadakia: “SIP (session interface protocol) session phone”),

associating the logical representation of the first telephony device with an electronic mail address (Wilcock: “The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets.”, [0126] and further, “This data set is used to describe the characteristics of the requesting party. Examples are ... e-mail address”, [0127] lines 1-4, emphasis added); and

associating the physical representation of the first telephony device with a fully qualified domain name (Wilcock: “where a page-push channel is provided, the content filters applied to that channel will generally take the form of URLs or domain names”, [0362] lines 1-3).

Regarding claim 28, the computer-readable medium of claim 27 wherein the determining of relationships between telephony devices (Wilcock: see discussion above for claim 20 regarding *determining relationship* between “endpoint system 1”/“Fred’s device” and “endpoint system 2”/“CSR desktop 80”) *includes searching a network directory for a listing of telephony devices within the communication network* (Wilcock: refer to fig. 6 and see “a session initiation instance associated with the page and customer then accesses customer profile database 39 to extract customer data” recited [0316] lines 1-3).

- **Independent claims 33 and its dependent claims 34 and 35**

Wilcock discloses the following features:

Regarding claim 33, a communication network (Fig. 3) comprising:
a plurality of telephony devices (“CUS_ESs” cited above, one example being “endpoint system 1”/“Fred’s device”, the same as that said for claim 20),

each telephony device (“endpoint system 1”/“Fred’s device”) being selected from the group consisting of a Session Initiation Protocol-enabled device (“Internet protocol (IP) socket and Session Initiation Protocol (SIP) transports are other possible alternative implementation choices”, [0088] lines 9-11, which requires a SIP device) and a PSTN telephone (above said “other channels, e.g. telephony” in view of “the communication option required (such as ... PSTN telephone call)”, [0135] lines 6-8), each telephony device having a logical representation (in view of above cited “abstraction 11” and see further “the connection-state abstractions exchanged by the leg controllers represent high-level, logical participation in the session transport”, [0074] lines 14-18) and a physical representation (see in general “connection details include the address and type of the session transport”, [0070] lines 4-5, and see in particular “To interface with a particular call, the CSR selects the row containing the call details (and possibly is also required to press an appropriate button”, [0188] last three lines) for the telephony device, the logic representation for a telephony device representing a communication link of the telephony device (“high level logical participation” cited above for “connection layer” in fig. 3), the physical representation (“connection/call details” cited above) of a telephony device representing physical attributes of the telephony device (e.g. “type of the session transport” as well as “appropriate button” of “endpoint system” cited above); and

a plurality of client systems (“CSR_ESs” cited above, with one example of “endpoint system 2”/“CSR desktop 80”, the same as that said for claim 20 above), each client system having hardware (“CSR desktop 80“ shown as an

“agent desktop 74” computer terminal illustrated in Fig. 8 for a “CSR_ES”) and software components (“CSR desktop GUI 80” of Fig. 9, [0188] lines 12-13, noting that a “GUI” is a well known software component in the art) that provide a user interface (“GUI 80”) for controlling the first telephony device (“endpoint system 1”/“Fred’s device” as making one of the “manage[d] calls that they [CSRs] are already dealing with” cited above), each client system for controlling and monitoring calls placed through a telephony device (Fig. 9 showing “CSR desktop 80” controlling and monitoring “Call ID 45” call placed through “Fred’s device”/“endpoint system 1”) by performing steps comprising:

determining relationships between the client systems (again “endpoint system 2”/“CSR desktop 80”) and a first telephony devices (again “endpoint system 1”/“Fred’s device”, and see above cited “the connection-state abstractions exchanged by the leg controllers”, e.g. fig. 3 respective “leg controllers 20” pair in “communication session manager 14” and “endpoint system 1”);

establishing a device control channel (Fig. 3 e.g. “channel **a**” of “session transport 15” in “STM 19”) between the physical representation of the first telephony device (“type of transport” of “endpoint system 1”/“Fred’s device”) and the client system (fig. 3 “endpoint system 2”/“CSR desktop 80” using “STM 19” and see “Associate with each communication session is a session transport 15 (fig. 2) which is an abstraction of functionality for actually effecting data communication between endpoint systems”, [0043] lines 1-4); and

establishing a call control channel (fig. 3 see the channel carrying “leg message”) between the logical representation of the first telephony device and the client system (again refer to fig. 3 depicting, at “connection layer”, “CSM 14” having “leg controller 20” paired up with “leg controller 20” of “endpoint system 1” for passing above cited “leg messages”); and

controlling the telephony device via the logical representation using the call control channel (see discussion above regarding “CSM 14” controlling “endpoint system 1”/“Fred’s device” via the logical representation comprising using the call control channel carrying “leg messages”) and via the physical representation using the device control channel (see discussion above regarding “STM 19” controlling “endpoint system 1”/“Fred’s device” via the physical representation comprising using the physical control channel, e.g., “channel a”) to place a call (see fig. 3, the “service layer”, and note, as a result of above discussed controlling, the “Call ID 45” call placed between “endpoint system 1”/“Fred’s device” and “endpoint system 2”/“CSR desktop 80” therein, see Fig. 9 also, which can be further placed by “transferring the call to another CSR”, [0189] line 4), the controlling being based on input of a user through the user interface of the client system (“GUI 80” for “CSR desktop 80” wherein “The call management component 82 includes a set of high-level control buttons 81 for choosing actions such as accepting/rejecting an invitation to join a session, disconnecting from a call, transferring the call to another CSR and conferencing in another CSR”, [0189]); and

monitoring the first telephony device via the logical representation using the call control channel and via the physical representation using the device control channel (see discussion above again regarding controlling provided by “SCM 14/STM 19”, and further see “The session manager 14 and the session-transport functionality are kept in step through ‘leg controllers’ 20 (shown in fig. 3)” recited [0045] lines 8-10, and “The leg controller 20 ... monitor the connection state of the entity” recited [0073] lines 8-12).

It is noted herein that, while disclosing SIP device and PSTN telephone, Wilcock does not expressly disclose a SIP *telephone* and a *time division multiplexing telephone*. However, using explicitly *SIP telephone* and/or *TDM telephone* for data and/or voice communications has been a known technique in the art at the time of the instant invention, as can be seen in Kadakia.

Kadakia discloses “apparatus, and an associated method, by which to facilitate routing of a telephone call originated at an originating station to a designated telephonic station” (Abstract lines 1-3) comprising using *SIP telephone* and/or *TDM telephone* (refer to Fig. 1 and see firstly “SIP phone” being illustrated communication to other device via “TDM/IP network 12”, and also note “telephone 14” and see “the telephonic station 14 is representative of any of various types of telephonic stations capable of originating a telephonic call. That is to say, the telephonic station is representative of a POTS (plain old telephone system) phone, a TDM (time division multiplexed) phone, SIP (session interface protocol) session phone, or a wireless mobile station, as well as other telephonic communication stations”, [0028] lines 9-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the communication network of Wilcock by adding Kadakia's SIP/TDM telephones thereto in order to provide a more robust and easy-to-use system in which "the routing is performed automatically, wholly without intervention by the user to identify the user's location" ([0045] lines 3-5).

Regarding claim 34, the communication network of claim 33 wherein

when the first telephony device (Wilcock: "endpoint system 1"/"Fred's device") is a time division multiplexing (TDM) device (Kadakia: "TDM (time division multiplexed) phone"), the logical representation and the physical representation of the first telephony device is associated (Wilcock: see discussion above for claim 20 regarding logical/physical representation) with a phone number of the telephony device (Wilcock: "The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets:", [0126] and further, "This data set is used to describe the characteristics of the requesting party. Examples are ... telephone number", [0127] lines 1-4); and

when the first telephony device is a SIP device (Kadakia: "SIP (session interface protocol) session phone"),

the logical representation of the first telephony device is associated with an electronic mail address (Wilcock: "The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets:", [0126] and further, "This data set

is used to describe the characteristics of the requesting party. Examples are ...

e-mail address", [0127] lines 1-4, emphasis added); *and*

the physical representation of the first telephony device is associated with a fully qualified domain name (Wilcock: "where a page-push channel is provided, the content filters applied to that channel will generally take the form of URLs or domain names", [0362] lines 1-3).

Regarding claim 35, the communication network of claim 33 wherein the determining of relationships between telephony devices (Wilcock: see discussion above for claim 20 regarding *determining relationship* between "endpoint system 1"/"Fred's device" and "endpoint system 2"/"CSR desktop 80") *includes searching a network directory for a listing of telephony devices within the communication network* (Wilcock: refer to fig. 6 and see "a session initiation instance associated with the page and customer then accesses customer profile database 39 to extract customer data" recited [0316] lines 1-3).

7. Claims 23, 24, 29, 30, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcock in view of Kadakia, as applied to claims 20, 26 and 33 above, and further in view of Roach (Network Working Group Request for Comments: 3265 Updates: 2543, June 2002: Session Initiation Protocol (SIP) – Specific Event Notification).

Wilcock in view of Kadakia discloses claimed limitations in section 6 above, which further comprises (note: unless stated otherwise, references made below are drawn to Wilcock):

Regarding claims 23 / 29 / 36, the method / computer-readable medium / communication network of claim 20 / 26 / 33 wherein the establishing a device control channel between a client system and a telephony device (see discussion in section 3 above for claims 20/26/33 regarding establishing e.g. "channel a" between client system "endpoint system 2"/"CSR desktop 80" and "endpoint system 1"/"Fred's device", which are also known as "participants" or "participant systems") comprises:

sending an invitation message from the client system to the physical representation of the telephony device ("Adding identified participant to the session – this results in an invitation being passed to the identified participant system", [0053] lines 1-3, which will have to be sent to the physical representation thereof, such as "the address and type of the session transport" in Wilcock's term, as well known to one skilled in the art);

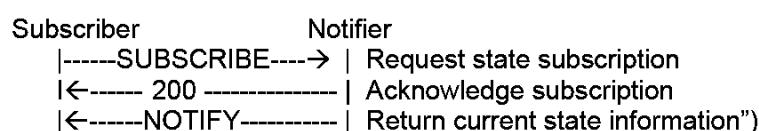
receiving an accepted response from the physical representation of the telephony device to the client system ("if the invitation is accepted (as notified to the session through the corresponding leg controller)" recited p3 right col. lines 2-4);

sending a connected message from the client system to the physical representation of the telephony device in response to receiving the accepted response ("if the invitation is accepted ... a 'Connected' event is produced" recited p3 right col. lines 4-5, noting that it is well known in the art that if a called party in a call is connected, a connected message will necessarily be passed to the party)

(It should be noted that in above three message sequence, invitation, accepted, connected are functionally the same as corresponding *SIP INVITE*, *SIP OK* and *SIP ACK* messages being claimed. Since Wilcock also discloses, in general terms, using “SIP” protocol for messaging in his system as discussed in section 5 above, it would have been obvious to one skilled in the art that above invitation, accepted, and connected message be converted to their counterparts in *SIP* when “SIP” protocol is employed system-wise in Wilcock).

Wilcock does not expressly teach, regarding claims 23 / 29 / 36, sending a SIP SUBSCRIBE message from the client system to the telephony device; receiving a SIP OK response sent from the telephony device; and sending a SIP NOTIFY message to the client system to notify the client device of changes in the status of a physical attribute (claims 23/29/36) or communication link (claims 24/30/37) *of the telephony device.*

Roach discloses “an extension to the Session Initiation Protocol (SIP)” (Abstract lines 1-2) comprising above cited messaging sequences missing from Wilcock, particularly *sending a SIP SUBSCRIBE message from the client system to the telephony device; receiving a SIP OK response sent from the telephony device; and sending a SIP NOTIFY message to the client system to notify the client device of changes in the status of a physical attribute* (claims 23/29/36) or *communication link* (claims 24/30/37) *of the telephony device.* (see [page 3] for “A typical flow of messages would be:



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Wilcock by adding the SIP messaging sequence of Roach in order to provide a fully SIP compliant system that, as Roach points out has “the ability to request asynchronous notification of events” ([page 2] “Introduction” line 1) which has been proven “useful in many types of SIP services for which cooperation between end-nodes is required” ([page] 2 “Introduction” lines 2-3).

Regarding claims 24 / 30 / 37, the method / computer-readable medium / communication network of claim 20 / 29 / 33 wherein the establishing a call control channel between a client system and a telephony device (see discussion in section 3 above for claims 20/26/33 regarding establishing e.g. "leg message" channel between client system "STM" and "endpoint system" which per Wilcock_2 comprising a telephony device) comprises:

*sending an option message from the client system to the logical representation of the telephony device (“The information contained in the initiation context will to some extent be service specific but will generally involve information grouped in the following data sets.”, [0126], as one of the messages, “Communication option. This data set describes the preferred communication mechanism of the requesting party”, [0131] lines 1-3, which is sent as a “leg message” to the *logic presentation* comprising “logic participation” as cited in section 3 above for claims 20/26/33);*

receiving an accepted response set from the logical representation of the telephony device to the client system (“if the invitation is accepted (as notified to the session through the corresponding leg controller) a “Connected” event is produced” recited p3 right col. lines 2-4);

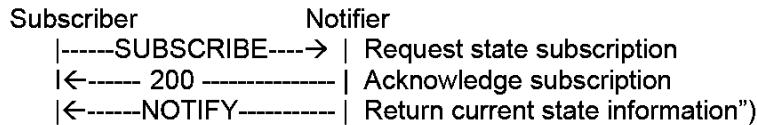
(It should be noted that above said two messages are functionally the same as corresponding *SIP OPTION* and *SIP OK* messages being claimed. Since Wilcock also discloses, in general terms, using “SIP” protocol for messaging in his system as cited above in paragraph for claim 9, it would have been obvious to one skilled in the art that above option message and accepted message be converted to *SIP* compliant messaging when “SIP” is employed system-wise in Wilcock).

Wilcock does not expressly teach, regarding claims 24 / 30 / 37, sending a SIP SUBSCRIBE message from the client system to the telephony device; receiving a SIP OK response sent from the telephony device; and sending a SIP NOTIFY message to the client system to notify the client device of changes in the status of a physical attribute (claims 23/29/36) or communication link (claims 24/30/37) of the telephony device.

*Roach discloses “an extension to the Session Initiation Protocol (SIP)” (Abstract lines 1-2) comprising above cited messaging sequences missing from Wilcock, particularly *sending a SIP SUBSCRIBE message from the client system to the telephony device; receiving a SIP OK response sent from the telephony device; and sending a SIP NOTIFY message to the client system to notify the client device of changes in the status of a physical attribute (claims 23/29/36) or**

communication link (claims 24/30/37) of the telephony device. (see [page 3] for

“A typical flow of messages would be:



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Wilcock by adding the SIP messaging sequence of Roach in order to provide a fully SIP compliant system that, as Roach points out has “the ability to request asynchronous notification of events” ([page 2] “Introduction” line 1) which has been proven “useful in many types of SIP services for which cooperation between end-nodes is required” ([page] 2 “Introduction” lines 2-3).

8. Claims 25, 31, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcock in view of Kadakia, as applied to claims 20, 26 and 33 above, and further in view of Wengrovitz et al (US 2003/0023730, “Wengrovitz”).

Wilcock in view of Kadakia discloses claimed limitation in section 6 above, which further comprises (note: unless stated otherwise, references made below are drawn to Wilcock):

Regarding claim 25, the method of claim 20 wherein when a telephony device (“endpoint system 1”/“Fred’s device”) with a relationship to a client system (“endpoint system 2”/“CSR desktop 80” and see Fig. 3 and/or 9 for the relationship thereinbetween) is a time division multiplexing (“TDM”) device (Kadakia: “TDM (time division multiplexed) phone”) and a front end SIP unit in

communication with the telephony device (fig. 3 “service front-end 27” unit which is shown to be *in communication with* “endpoint system 1”, and note that said “front-end 27” performs “the first step” to “select a communication session 11”, [0123] lines 1-2, which “first step is carried out by session initiation functionality 35”, [0123] lines 9-10, emphasis added, which indicates that “front-end 27” must be a *SIP front end*).

The combination of Wilcock and Kadakia does not expressly disclose *the client system adapted to convert SIP data to computer-telephony-integration (“CTI”) data and convert CTI data to SIP data.*

(It should be noted though that, it is in fact obvious that, when Wilcock and Kadakia are combined, the client system will have to be able to perform the claimed bidirectional “*CTI↔SIP*” *data conversion* because otherwise the task/goal of Wilcock for “extending a telephone session by web rendezvous” ([0267]) that enable one to handle situation in which “the current dominant method for a customer to contact an enterprise for help is [still] to dial an 800 number” ([0268]) would not be successfully accomplished/reached. However, it is acknowledged that the claimed “*CTI↔SIP*” *data conversion* is indeed not expressly disclosed by Wilcock).

Wengrovitz discloses “a system for conducting multimedia SIP sessions via multiple hosts, such as a PC and a telephone” (Abstract lines 1-2) using, refer to fig. 5, “SIP-enabled PBX” having an “emulation client” and a “VoIP conversion stack” comprising *the client system* (fig. 5 “emulation client 70”) *adapted to convert SIP data to computer-telephony-integration (“CTI”) data and convert CTI data to SIP data* (“the emulation client 70 converts received SIP message to PBX messages, such as for example CST, CTI, H.323, or other PBX signaling events”, [0049] lines 4-6, emphasis added, noting that it would have been obvious to one skilled in the art that reversed conversion is also necessary for smooth communication between, see fig. 5, “telephone stack 80”, “SIP stack 76” and “VoIP conversion stack 68”).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Wilcock by adding the SIP/CTI conversion method of Wengrovitz to Wilcock in order to “provides reliable SIP phone connections while providing an improved display of data, video, and/or graphics” (Wengrovitz, [0008] lines 2-4).

Regarding claim 31, the computer-readable medium of claim 26 wherein when the first telephony device (“endpoint system 1”/“Fred’s device”) is a time division multiplexing (“TDM”) device (Kadakia: “TDM (time division multiplexed) phone”), providing a front end SIP unit in communication with the first telephony device (fig. 3 “service front-end 27” unit which is shown to be in communication with “endpoint system 1”, and note that said “front-end 27” performs “the first step” to “select a communication session 11”, [0123] lines 1-2, which “first step is carried out by session initiation functionality 35”, [0123] lines 9-10, emphasis added, which indicates that “front-end 27” must be a SIP front end).

Wengrovitz (see general discussion above) further provides *the client system (fig. 5 “emulation client 70”) adapted to convert SIP data to computer-telephony-integration (“CTI”) data and convert CTI data to SIP data (“the emulation client 70 converts received SIP message to PBX messages, such as for example CST, CTI, H.323, or other PBX signaling events”, [0049] lines 4-6, emphasis added, noting that it would have been obvious to one skilled in the art that reversed conversion is also necessary for smooth communication between, see fig. 5, “telephone stack 80”, “SIP stack 76” and “VoIP conversion stack 68”)*

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the computer-readable medium of Wilcock by adding the SIP/CTI conversion method of Wengrovitz to Wilcock in order to “provides reliable SIP phone connections while providing an improved display of data, video, and/or graphics” (Wengrovitz, [0008] lines 2-4).

Regarding claim 38, the communication network of claim 33 including a front end SIP unit in communication with the first telephony device (fig. 3 “service front-end 27” *unit* which is shown to be *in communication with* “endpoint system 1”, and note that said “front-end 27” performs “the first step” to “select a communication session 11”, [0123] lines 1-2, which “first step is carried out by session initiation functionality 35”, [0123] lines 9-10, emphasis added, which indicates that “front-end 27” must be a *SIP front end*) and *when the first telephony device* (“endpoint system 1”/“Fred’s device”) *is a time division multiplexing (“TDM”)* device (Kadakia: “TDM (time division multiplexed) phone”).

Wengrovitz (see general discussion above) further provides *the client system* (fig. 5 “emulation client 70”) *adapted to convert SIP data to computer-telephony-integration (“CTI”) data and convert CTI data to SIP data* (“the emulation client 70 converts received SIP message to PBX messages, such as for example CST, CTI, H.323, or other PBX signaling events”, [0049] lines 4-6, emphasis added, noting that it would have been obvious to one skilled in the art that reversed conversion is also necessary for smooth communication between, see fig. 5, “telephone stack 80”, “SIP stack 76” and “VoIP conversion stack 68”).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the communication network of Wilcock by adding the SIP/CTI conversion method of Wengrovitz to Wilcock in order to “provides reliable SIP phone connections while providing an improved display of data, video, and/or graphics” (Wengrovitz, [0008] lines 2-4).

Regarding claim 39, the communication network of claim 33 wherein the first telephony device is a SIP-enabled phone (Kadakia: see discussion for claim 33 above regarding “SIP phone” added to Wilcock’s SIP device). Wilcock does not expressly but Wengrovitz does discloses telephony device being a SIP-enabled PBX phone (Wengrovitz: Fig. 5 “SIP-enabled PBX 66”).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the communication network of Wilcock by adding the SIP-enable PBX of Wengrovitz to Wilcock in order to “provides reliable SIP phone connections while providing an improved display of data, video, and/or graphics” (Wengrovitz, [0008] lines 2-4).

9. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcock in view of Kadakia, as applied to claim 26 above, and further in view of Miller et al (US 2003/0076851, “Miller”).

Wilcock in view of Kadakia discloses claimed limitations in section 6 above, which further comprises (note: unless stated otherwise, references below are drawn to Wilcock):

Regarding claim 32, the computer-readable medium of claim 26 wherein the establishing of the device control channel (Fig. 3 “STM 19” establishing e.g. “channel a” for device control controlling “type of session transport” of “endpoint system 1”) includes establishing a first channel (again “Channel a”) and establishing of the call control channel (fig. 3 “CSM 14” establishing e.g. “leg messages” channel for call control controlling “connection” of “endpoint system 1”) includes establishing a second channel (again “leg messages” channel) that is different from the first channel (fig. 3 shows that “leg messages” channel being different from the “Channel a”).

It is noted that Wilcock, in disclosing above cited two different control channels, does not expressly disclose establishing such control channels in terms of two different SIP sessions.

(It should be noted though that Wilcock suggested using SIP as a choice for implementing the invention in that “Internet protocol (IP) sockets and Session Initiation Protocol (SIP) transports are other possible alternative implementation choices”, [0088] last three lines),

On the other hand, using SIP session to establish control channel had been long the art at the time of the instant invention (in fact, it is well known in the art that one of the original goals of SIP standard is for establishing control channel/link with a communication device by establishing a SIP session). Below is just one example.

Miller discloses an invention wherein “A Voice over Internet Protocol (VoIP) network is described in which session state is maintained in access switches” (Abstract lines 1-2), comprising: establishing control channel includes establishing SIP session (“SIP uses invitations to create Session Description Protocol (SDP) messages to carry out capability exchange and setup call control

channel use. Such invitations allow ‘participants’ to agree on a set of compatible media types”, [0058] lines 6-10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Wilcock’s computer-readable medium for control channel establishment by adding Miller’s suggestion of establishing *S/P session* for control channel in order to provide a more robust call control that “is relatively simple, efficient, and extendable, owing much of its design philosophy and architecture” (Miller, [0058] lines 3-4).

Response to Arguments

10. Applicant's arguments with respect to claims 20, 26 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0006137 discloses system and method for supporting multiple voice channels using telephony technologies with gateway control over telephony devices.

US 2004/0196965 discloses method and apparatus for using web services to provide telephony communication using client servers to control the operation of telephony devices.

US 6,625,258 discloses system and method for providing unified communication services using a virtual assistant system as a client to manage communications between telephony devices and computers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW LAI whose telephone number is (571)272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lai/
Examiner, Art Unit 2416